

Sun Type 5 Keyboard Product Notes



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Sun Type 5 Keyboard Product Notes

This document contains the following sections:

- "System Support" on page 2. Read this section for system support information. Be sure to install the supplements before installing the type 5 keyboard.
- "Installing the Type 5 Keyboard and Mouse" on page 4.
- "New Features" on page 7. Read this section for a description of the new features of the type 5 keyboard and changes from previous keyboards.
- "Diagnostic Codes" on page 13. If you have a SPARCstation 2, ELC, or IPX system™, read this section for information about the diagnostic codes display.
- "Known Problems" on page 14.

For more information about the type 5 keyboard, see *Using Your Sun Keyboard*.

System Support

The Sun™ type 5 keyboard is supported on all SPARC™ platforms.

These tables lists the supported software and firmware versions for the type 5 keyboard.

Operating System Support

- Solaris 1.0.1 (SunOS 4.1.2) and later releases.
 - Solaris 1.0 (SunOS 4.1.1 Rev B), SunOS 4.1.1, SunOS 4.1 *plus* SunOS patch.
 - SunOS 4.0.3 and earlier releases do not support the Type 5 keyboard. To use the type 5 keyboard, you need to upgrade to one of the software versions listed above.
-

Window System Support

- OpenWindows 3.0 or later.
 - OpenWindows 2.0 *plus* OpenWindows patch.
 - SunView.
-

PROM Support

- OpenBoot PROM 2.5 or higher.
 - OpenBoot PROM 1.3 through 2.4 for U.S. or UNIX keyboards.
 - OpenBoot PROM 1.3 through 2.4 *plus* OpenBoot PROM patch for all other keyboards.
 - OpenBoot PROMs 1.2 or earlier and SunMon EEPROMs do not support the type 5 keyboard. The type 5 keyboard will work like a U.S. type 4 keyboard with these boot PROM versions.
-

If you require any of the three patches listed above, contact your local sales office for the Type 5 Keyboard Supplement CD (part number T5KBD-21). This CD contains the three patches listed above:

- SunOS™ 4.1/4.1.1 patch
- OpenWindows™ 2.0 patch
- OpenBoot™ PROM patch

This section applies only to SPARCstation 1, 1+, 2, ELC, SLC, IPC, or IPX™ systems because these systems may have a OpenBoot PROM version 2.4 or earlier.

OpenBoot PROM

To determine the OpenBoot PROM version, complete the following steps. This procedure will make your system unavailable for other processes, so you may want to warn clients before performing this procedure on a server.

1. Type `sync` and press Return.
2. Press **Stop(L1)-a** (or **Stop-q** on French keyboards).
The `ok` or `>` prompt appears on the screen.
3. If you see the `>` prompt, type `n` and press Return.
This puts you in new command mode. The `ok` prompt appears.
4. Type `.version` at the `ok` prompt and press Return.
5. Note the release number.
6. Type `go` and press Return to resume.
7. Refresh your screen.

If you are running a window system, redisplay the desktop. If you are not running a window system, press the Return key to redisplay the system prompt.

If you have an OpenBoot PROM 1.3 through 2.4 and do not install the patch, if you have an OpenBoot PROM 1.2 or earlier, or if you have a SunMon EEPROM the type 5 keyboard will work like a U.S. type 4 keyboard at the boot PROM level. The type 4 U.S. keyboard is shown here for your reference.

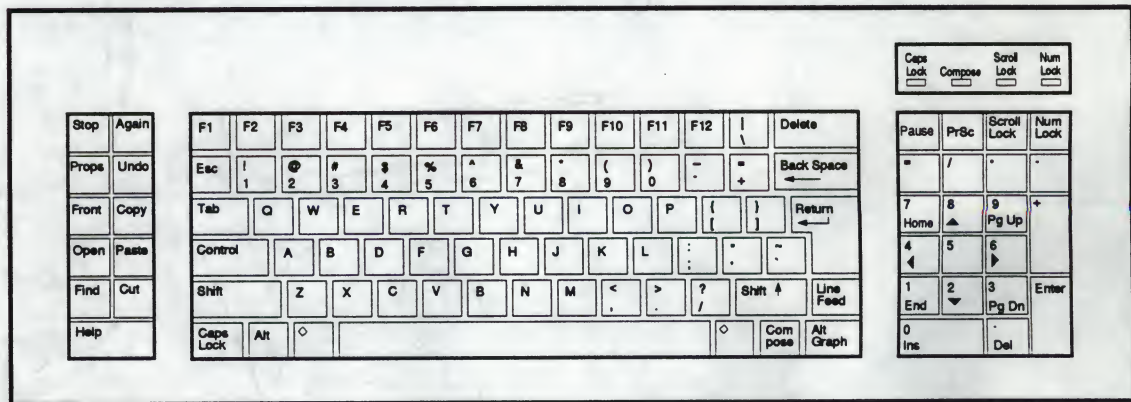


Figure 1 U.S. Type 4 Keyboard Layout

Installing the Type 5 Keyboard and Mouse

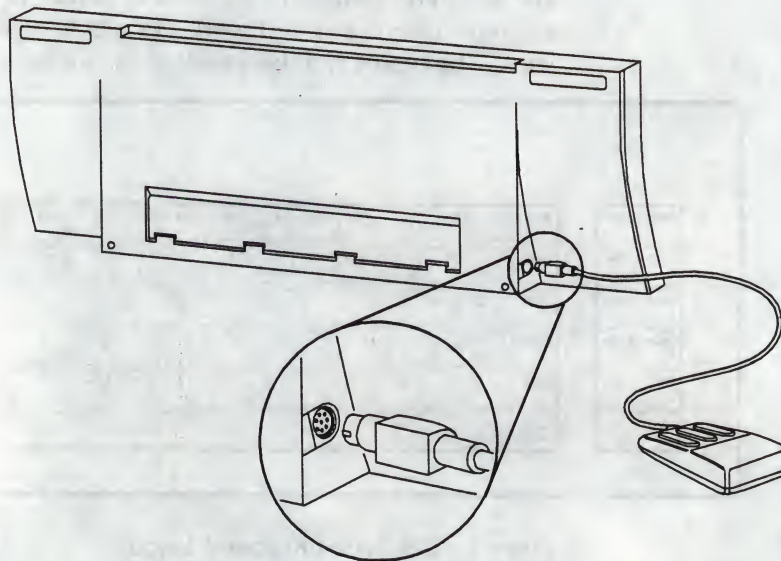
If you have a SPARCstation™ 1, 1+, 2, SLC, ELC, IPC, or IPX system, these instructions replace the installation instructions for the type 4 keyboard provided in the manuals for those platforms.

If your system is running:

1. **Halt your system and turn off the system power.**
See the documentation for your system for instructions.
2. **Unplug the old keyboard from the system unit.**

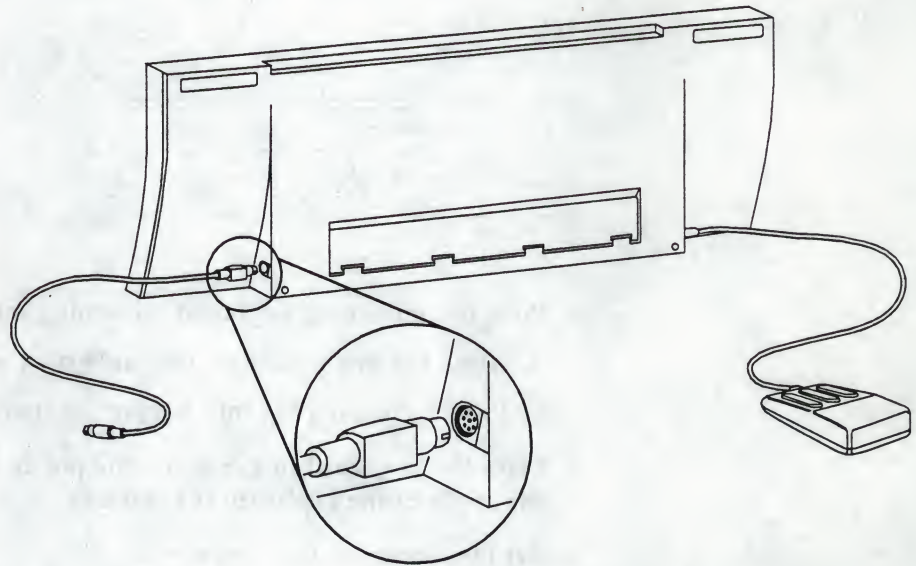
Connecting the Mouse to the Keyboard

1. **Remove the mouse with its attached cable from the carton.**
Remove the protective end cap from the plug.
2. **Locate the jacks on the underside of the keyboard.**
3. **Insert the plug on the end of the mouse cable into a keyboard jack.**
The jack you use depends on where you want to place the mouse on your desktop. Insert the plug into the left jack if you are left-handed or insert it into the right jack if you are right-handed.
 - a. **Align the key groove on the cable plug with the key slot on the jack.**
 - b. **Push the cable plug into the jack until the cable is firmly connected.**



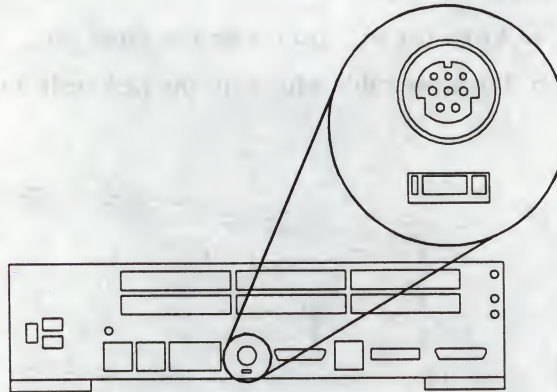
Connecting the Keyboard to the System Unit

1. Insert the connector on either end of the keyboard cable into the other keyboard jack.
 - a. Align the key groove on the cable plug with the key slot on the jack.
 - b. Push the cable plug into the jack until the cable is firmly connected.



2. Find the keyboard port on the back panel of the system unit.

The keyboard port is labeled on the back panel with a keyboard icon.



3. Push the remaining keyboard cable plug into the keyboard port.

- a. Align the key groove on the cable plug with the key slot on the port.
- b. Push the cable plug into the port so that the cable is firmly connected.

4. Place the keyboard in a comfortable position on your desktop and adjust the angle of the keyboard if necessary.

5. Set the mouse on the mouse pad.

If you are installing a new system:

- ◆ Continue with the installation procedure as described in the installation guide for your platform.

If you are connecting the type 5 keyboard in a system that was already installed:

- ◆ Turn the system power on and boot the system.
See the installation guide for your platform for instructions on turning the system power on and booting.

New Features

These new and changed features of the type 5 keyboard are described in this section:

- Power and audio/monitor keys added.
- R-key support changed.
- Linefeed key not supported.
- L-key labels removed.

Power and Audio/Monitor Keys

Power Key



The power key, which is located in the upper-right corner of the keyboard, provides system power up and power down control.

Software and Hardware Support

The operating system documentation will contain information on the support and use of the power key when it is implemented.

The power key is not supported on the Sun-4 series, SPARCstation 1, 1+, 2, SLC, ELC, IPC, and IPX systems. If your system supports the power key, the documentation for your system will contain more information about power key support and operation.

Audio/Monitor Keys



The three audio/monitor keys are located in the upper-right corner of the keyboard. These keys provide audio volume control (mute, volume decrease, and volume increase) and monitor control (Degauss, contrast decrease, and contrast increase).

Software and Hardware Support

The operating system documentation will contain information on the support and operation of these keys when it is implemented. These keys are supported on all hardware platforms that support the type 5 keyboard.

R-Key Support

The type 5 keyboard no longer supports the R-keys. On the type 4 keyboard, these keys are located on the right keypad. However, all of the R-keys—except for the R4 key—exist on the type 5 keyboard, but they are not marked with the R-key number and the arrangement of the keys is different than on the type 4. To find where the R-keys are located and for instructions on mapping the R4 key, see the next section.

Remapping the Keyboard

To remap your keyboard, refer to the keymap assignments shown in Figures 2 through 4.

This example shows how to map the minus key (B15) to R4. You can map R4 to any key you want, but the minus key is a good choice because it is commonly unused and it is located near the other R-keys.

1. Find the keymap file for your keyboard in the

`/usr/share/lib/keytables` **directory.**

The file names for the type 5 keymaps are named by country followed by `_5`. The U.S. keyboard, for example, is named `us_5`.

2. Add this line to the keymap file with any text editor:

```
key 71 all rf(4) num1 padminus
```

This causes the minus (-) sign key to send the R4 escape sequence instead of the B15 escape sequence.

3. Reboot your system.

For instructions on how to reboot your system, see the documentation for your platform.

Table 1 Comparative Mappings for the Right Keypad on Type 4 and Type 5 Keyboards

Key	Type 4 Label	Type 5 Label	Comments
R1	Pause	Pause	Moved on Type 5
R2	PrSc	Print Screen	Moved on Type 5
R3	Scroll Lock Break	Scroll Lock	Moved on Type 5
R4	=	<i>none</i>	No equivalent key on the type 5
R5	/	/	Same on both keyboards
R6	*	*	Same on both keyboards
R7	Home, 7	Home, 7	Same on both keyboards
R8	↑, 8	↑, 8	Same on both keyboards
R9	PgUp, 9	PgUp, 9	Same on both keyboards
R10	←, 4	←, 4	Same on both keyboards
R11	5	5	Same on both keyboards
R12	→, 6	→, 6	Same on both keyboards
R13	End, 1	End, 1	Same on both keyboards
R14	↓, 2	↓, 2	Same on both keyboards
R15	PgDn, 3	PgDn, 3	Same on both keyboards
B8	Ins, 0	Ins, 0	Same on both keyboards
B10	Del, .	Del, .	Same on both keyboards
B11	Enter	Enter	Same on both keyboards
B14	+	+	Same on both keyboards
B15	-	-	Same on both keyboards

Linefeed Key

The type 5 keyboard no longer supports the Linefeed key. To enter a linefeed character, press Control-j. You can also remap it to another key.

L-Key Labels

The L-keys are no longer labeled with the L-key number on the type 5 keyboard. They are still marked with their functional names (Stop, Again, etc.) and function of the keys remain the same as before.

<u>This key:</u>	<u>Corresponds to:</u>
Stop	L1
Again	L2
Props	L3
Undo	L4
Front	L5
Copy	L6
Open	L7
Paste	L8
Find	L9
Cut	L10

Keycode Assignments

The keycode assignments for all type 5 keyboards are shown below. Use these keycodes when remapping your keyboard in OpenWindows. Be sure to use the layout for your specific keyboard. See the OpenWindows documentation for more information on remapping key functions.

118	29	5	6	8	10	12	14	16	17	18	7	9	11	22	23	21	45	2	4	48				
1	3	42	30	31	32	33	34	35	36	37	38	39	40	41		43	44	52	96	98	46	47	71	
25	26	53		54	55	56	57	58	59	60	61	62	63	64	65		88	66	74	123	68	69	70	125
49	51	119		77	78	79	80	81	82	83	84	85	86	87		89				91	92	93		
72	73	99		100	101	102	103	104	105	106	107	108	109		110			20		112	113	114		90
95	97	76	19	120														24	27	28	94		50	

Figure 2 Keycode Assignments for the U.S., Taiwanese, and Korean Keyboards

118

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Figure 3 Keycode Assignments for the UNIX Keyboard

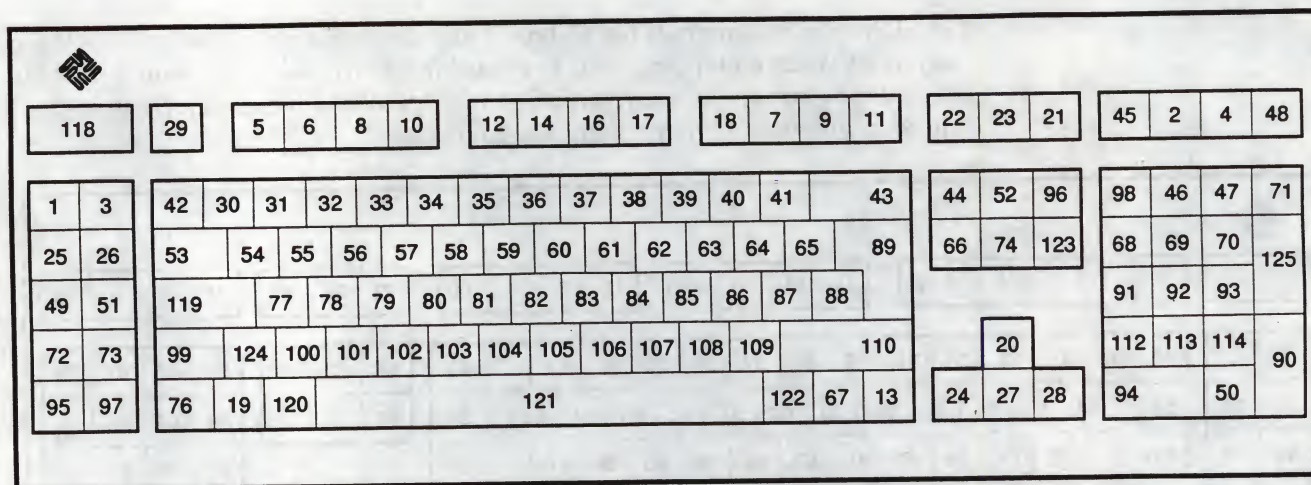


Figure 4 Keycode Assignments for TUV-compliant Keyboards¹

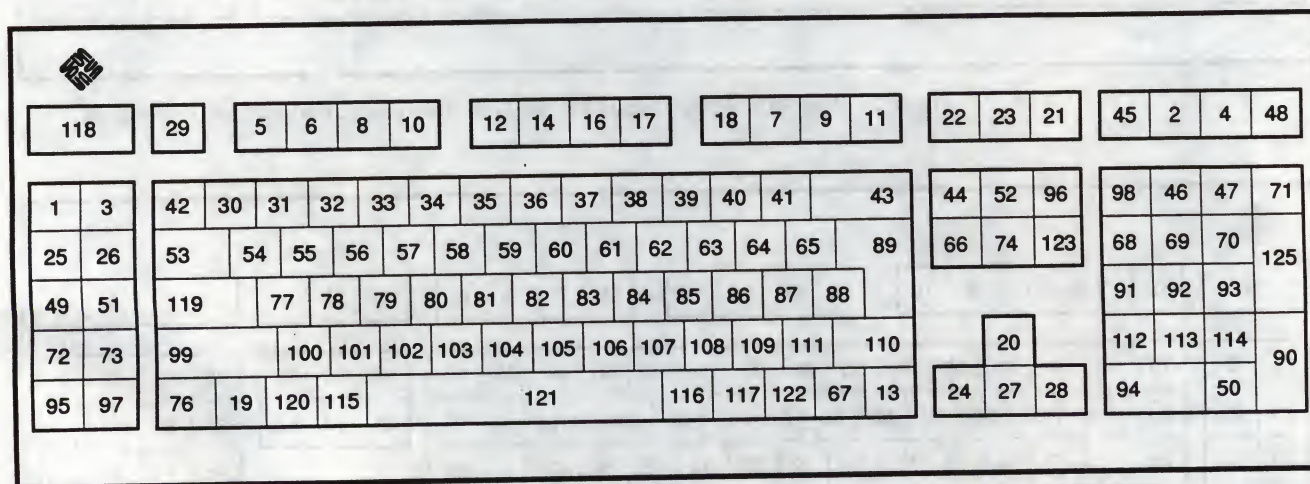


Figure 5 Keycode assignments for the Japanese Keyboard

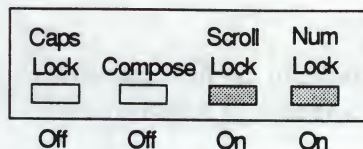
1. TUV-compliant keyboards are all keyboards except for U.S., UNIX, Japanese, Korean, and Taiwanese keyboards.

Diagnostic Codes

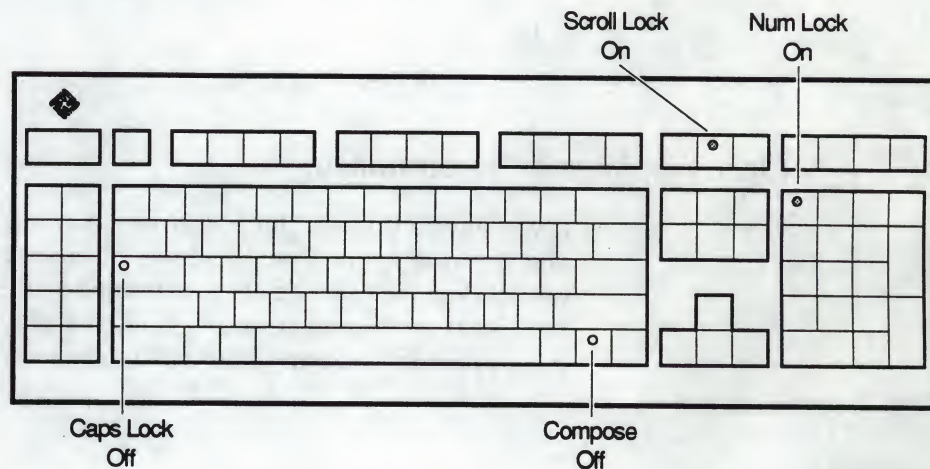
Read this section only if you have a SPARCstation 2, ELC, or IPX system.

On the type 4 keyboard, diagnostic codes are displayed on the four LEDs located on the upper-right corner of the keyboard. However, on the type 5 keyboard, the LEDs are located on the keys themselves. The diagnostic code patterns have the same meanings—only the *positions* of the LEDs have changed.

For example, a pattern of off/off/on/on on a type 4 keyboard would appear like this:



On a U.S. type 5 keyboard, the pattern would appear like this:



For more information on the diagnostic codes, see the documentation for your system.

Known Problems

OpenWindows 3.0 Environment

If you have a Dutch keyboard and you are running the OpenWindows 3.0 environment, the keystrokes are reversed for the upper and lowercase letter S, which means that if you press the S key, you get an uppercase letter, S, and if you press Shift-s, you get a lowercase letter, s.

To fix this:

1. Log on as superuser to the host machine where OpenWindows is installed in the local disk (possibly a server).
2. Edit the file `$OPENWINHOME/etc/keytables/Netherland5.kt` and change line number 235 from:

```
78  RN      XK_S      XK_s      XK_ssharp
```

to:

```
78  RN      XK_s      XK_S      XK_ssharp
```

OpenWindows 2.0 Environment

If you have a Danish, Dutch, German, Norwegian, or Swedish keyboard and you are running the OpenWindows 2.0 environment, the decimal separator (comma) on the numeric keypad (located on the lower, right-hand corner of the keyboard) produces a period (".") instead of a comma (","). To fix this, you must upgrade to OpenWindows 3.0 software.